Engineering Technician **Standard Job #802-09**
GS-0802-09

A. Major Duties

Typical, but not all-inclusive, duties are illustrated by performance of any combination of the following:

Participates as a team member with the scientist in all phases of the assignment(s) and assumes full technical and operational responsibility for specific phases assigned. Provides input into the initial planning of experiments.

Independently develops or designs various aspects of the projects on the basis of overall objectives outlined by the supervisor.

Contributes to the planning of various experiments or projects steps and to the interpretation and documentation of findings.

Selects appropriate methods and procedures for carrying the project plan to completion.

Constructs, assembles, installs, operates and maintains a variety of highly specialized complex scientific equipment/instrumentation which must be calibrated and synchronized to achieve desired results.

Assembles and installs complex precision instruments and devices; modifies or adapts instruments and equipment to obtain desired performance characteristics; devises experimental techniques; and observes significant trends in experimental data.

Develops various procedures, devises new or improved methods or designs specialized equipment.

Determines the kinds and frequency of tests and observations, etc., to be made and the amount of data to be recorded. Determines causes of deviation in test data.

Interprets and documents findings by preparing information to be included in manuscripts or preparing reports summarizing progress or results of research.

Keeps exact, detailed records of experimental data. Tabulates, statistically analyzes and summarizes data using personal computers and software packages.

Searches literature in the area of research for new procedures or techniques to use.

B. Evaluation Factors

1. Knowledge Required by the Position Level 1-6, 950 pts

Knowledge of the technical methods and procedures, management practices, policies and programs, and principles and practices of engineering in order to:

a. Design, coordinate, and execute complete conventional experiments when they are well precedented in scientific literature and within the organization's technical and administrative guides but require the exercise of judgment based on critical analysis and evaluation of objectives, past practices, source materials, alternatives among available work processes, and recognition of the intended use of completed work; OR

b. Participate with the scientist in most phases of the experimental process (development of original hypothesis and proposal excepted) and assumes full technical and operational responsibility for specific phases of the experiments; OR

c. Administratively maintain a significant function or area of responsibility continually.

Expert knowledge of techniques to perform a wide variety of procedures, tests, and experiments.

Ability to adapt, develop, or improve techniques and procedures, and/or design special equipment/instrumentation.

Intensive knowledge of the project objectives sufficient to contribute ideas to the planning and sequencing of experimental design.

Knowledge of the engineering processes, methods, procedures and management practices necessary to perform a full range of complex duties in area of assignment.

Knowledge and understanding of the application of instrumentation used in analyses so that prescribed procedures can be modified to accommodate existing conditions.

Skill in operating, maintaining, calibrating, and synchronizing complex equipment systems to achieve desired results.

Ability to locate, organize and adapt information from published literature for use as guidelines for new procedures.

Skill to interpret and document findings, and prepare segments of manuscripts or reports summarizing progress or results of project.

Skill to recognize results that are unexpected, unusual or erroneous, and independently initiate action to overcome technical difficulties or refer for professional resolution or interpretation.

Skill to obtain, tabulate, statistically analyze, and summarize data by graphic or other means. Familiarity with electronic and microprocessor-based calculators and equipment, and with computerized data storage and manipulation. Skill in the use of personal computers and software packages in the data collection, analysis, and presentation processes.

Knowledge of safe laboratory procedures.

2. Supervisory Controls **Level 2-3, 275 pts**

The supervisor or higher graded employee initially provides direction on the priorities, objectives, and/or deadline for kinds of work previously performed in the unit and therefore covered by precedent. Assignments new to the organization or unusual assignments may be accompanied with a general background discussion, including advice on the location of reference material to use.

The incumbent identifies the work to be done to fulfill project requirements and objectives, plans and carries out the procedural and technical steps required, seeks assistance as needed, independently coordinates work efforts with outside parties, and characteristically submits only completed work. Administrative direction or decision is sought from higher authority on the course to follow when encountering significant technical or procedural problems with the work.

Review is usually in the form of an assignment as to how the incumbent resolved technical and related administrative problems encountered. Accuracy of data produced, quality of observations made, and the sufficiency of steps employed in planning and executing the work assigned are customarily accepted without detailed review.

3. Guidelines **Level 3-3, 275 pts**

Incumbent works with new requirements or applications for which only general guidelines are available or with assignments where the most applicable guides are limited to general functional statements and/or work samples which are not always directly related to the core problem of the assignments, have gaps in specificity, or are otherwise not completely applicable.

Incumbent exercises judgment in applying the guidelines or extending their applicability to situations not specifically covered.

4. Complexity **Level 4-3, 150 pts**

The work requires the performance of various technical duties which involve differing and unrelated processes and methods. The test equipment and procedures require considerable skill in experimentation and judgment to obtain reproducible data, and recognize and interpret reactions that are difficult to observe and that can significantly affect the validity of the data. A number of possible courses of action for planning and executing the work exists, and the incumbent exercises discretion in choosing from among them.

Judgment is required to apply a wide range of conventional, established approaches, methods, techniques and solutions to new situations. The incumbent identifies and recommends resolution of discrepancies in data based on a study of how the data interrelate; adjusts work methods to accommodate unusual conditions; and/or recommends or determines what data to use, record or report.

5. Scope and Effect **Level 5-3, 150 pts**

The work involves applying conventional, technical and administrative solutions and practices to a variety of problems. Incumbent is involved in almost all phases of the scientist's study, and has responsibility for selected phases or conducts test applications of scientific and technical theories when the methods, techniques, and procedures are clearly outlined.

Work products directly affect the design and execution of experiments or the adequacy of such activities as long range work plans, field investigations, testing operations, or research conclusions.

6. Personal Contacts

Personal contacts are with employees in the agency, inside and outside of the immediate work unit, e.g., personnel from higher level organizational units, or, occasionally, resource individuals from state or local government units, or other federal agencies.

7. Purpose of Contacts **Level 2b, 75 pts**

The purpose of personal contacts is to plan and coordinate work efforts; discuss technical requirements of equipment with manufacturers and resolve problems concerning the work or the peculiar needs of the organization; interpret data obtained and explain its purpose and significance; or reach agreement on operating problems such as recurring submission of inaccurate, untimely, incomplete or irrelevant data. The persons contacted are usually working toward a common goal and generally are reasonably cooperative.

8. Physical Demands **Level 8-2, 20 pts**

The work requires some physical exertion, such as regular and recurring running, walking, or bending. In many situations the duration of the activity (such as most of a work day) contributes to the arduous nature of the job. In other situations, such as in a laboratory, there may be special requirements for agility or dexterity such as exceptional hand/eye coordination.

9. Work Environment **Level 9-2, 20 pts**

The work is performed in a laboratory, shop, or other research setting which involves regular and recurring moderate risks or discomforts requiring special safety precautions, e.g., working with electronic equipment or working outdoors. The employee is required to use protective clothing such as gowns, coats, boots, goggles, gloves.

Total points = 1,915
GS-9 = 1,855 – 2,100 pts

C. Other Considerations (Check if applicable)

[ ] Supervisory Responsibilities (EEO Statement)
[ ] Training Activities - Career Intern, Student Career Experience Program
[ ] Motor Vehicle or Commercial Driver's License Required
[ ] Pesticide Applicators License Required
[ ] Safety/Radiological Safety Collateral Duties
[ ] EEO Collateral Duties
[ ] Drug Test Required
[ ] Vaccine(s) Required

[ ] Financial Disclosure Required
[ ] Special Physical Requirements/Demands
[ ] Other: